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Claims Presented

1. (Original) A laser transmitter, comprising:
 - an input stage receiving a first signal and generating a second signal with a steady voltage swing in response to the first signal;
 - a control circuit generating a control signal;
 - a limiting amplifier having:
 - an input terminal receiving the second signal;
 - a control terminal receiving the control signal; and
 - an output terminal outputting a third signal having (a) an improved rise and fall time over the second signal and (b) an amplitude characteristic prescribed to the control signal;
 - a laser driver receiving the third signal and generating a fourth signal in response to the third signal; and
 - a light source receiving the fourth signal and generating a light in response to the fourth signal.
2. (Original) The laser transmitter of claim 1, wherein the control signal sets a common-mode of the third signal.
3. (Original) The laser transmitter of claim 1, wherein the control signal sets a peak amplitude of the third signal.
4. (Original) The laser transmitter of claim 1, wherein the control circuit comprises a register storing and outputting a digital control signal to the limiting amplifier.
5. (Original) The laser transmitter of claim 4, wherein the limiting amplifier comprises
 - a first variable resistor having an input terminal coupled to a rail;
 - a second variable resistor having an input terminal coupled to an output terminal of the first variable resistor;

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a third variable resistor having an input terminal coupled to the output terminal of the first variable resistor;

a differential pair comprising:

a first bipolar transistor having:

a collector coupled to an output terminal of the second variable resistor;

a base coupled to receive the second signal;

a second bipolar transistor having:

a collector coupled to an output terminal of the third variable resistor;

a current source having:

an input terminal coupled to the collector of the first bipolar transistor; and

an output terminal outputting the third signal.

6. (Original) The laser transmitter of claim 5, wherein at least one of the first, the second, and the third variable resistors has a control terminal coupled to the digital control signal.

7. (Original) The laser transmitter of claim 6, wherein at least one of the first, the second, and the third variable resistors comprises a voltage controlled resistor.

8. (Original) The laser transmitter of claim 5, further comprising:

a programmable current source having an input terminal coupled to emitters of the first and the second bipolar transmitters;

wherein at least one of the first, the second, and the third variable resistors and the programmable current source has a control terminal coupled to receive the digital control signal.

9. (Original) The laser transmitter of claim 1, wherein the control circuit comprises:

a register storing a digital control signal;

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a digital-to-analog converter (DAC) receiving the digital control signal and generating an analog control signal to the limiting amplifier.

10. (Original) The laser transmitter of claim 9, wherein the limiting amplifier comprises:

- a first variable resistor having an input terminal coupled to a rail;

- a second variable resistor having an input terminal coupled to an output terminal of the first variable resistor;

- a third variable resistor having an input terminal coupled to the output terminal of the first variable resistor;

- a differential pair comprising:

- a first bipolar transistor having:

- a collector coupled to an output terminal of the second variable resistor;

- a base coupled to receive the second signal;

- a second bipolar transistor having:

- a collector coupled to an output terminal of the third variable resistor;

- a current source having:

- an input terminal coupled to the collector of the first bipolar transistor; and

- an output terminal outputting the third signal.

11. (Original) The laser transmitter of claim 10, wherein at least one of the first, the second, and the third variable resistors has a control terminal coupled to the analog control signal.

12. (Original) The laser transmitter of claim 11, wherein at least one of the first, the second, and the third variable resistors comprises a voltage controlled resistor.

13. (Original) The laser transmitter of claim 10, further comprising:

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a programmable current source having an input terminal coupled to emitters of the first and the second bipolar transmitters;

wherein at least one of the first, the second, and the third variable resistors and the programmable current source has a control terminal coupled to receive the analog control signal.

14 - 19. (Cancelled)

Respectfully submitted,

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